



THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



Carbon Capture Demonstrations National Briefing on Project Selections

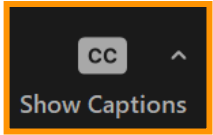
December 18, 2023

Office of Clean Energy Demonstrations

U.S. Department of Energy

Webinar Logistics

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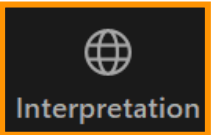


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Is this webinar being recorded?

Yes, this webinar is being recorded and will be available on the DOE YouTube channel and the OCED website within the next few days.

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Will the slides be shared?

Yes, a copy of the presentation slides will be shared via email with registrants and on the OCED website within the next few days.



Agenda

- Welcome & Opening Remarks
- Carbon Capture Demonstration Projects Program Overview
- Selected Carbon Capture Demonstration Projects Overview
- Next Steps & Resources





Opening Remarks



Carbon Capture Demonstration Projects

How Does Carbon Capture and Storage (CCS) Work?

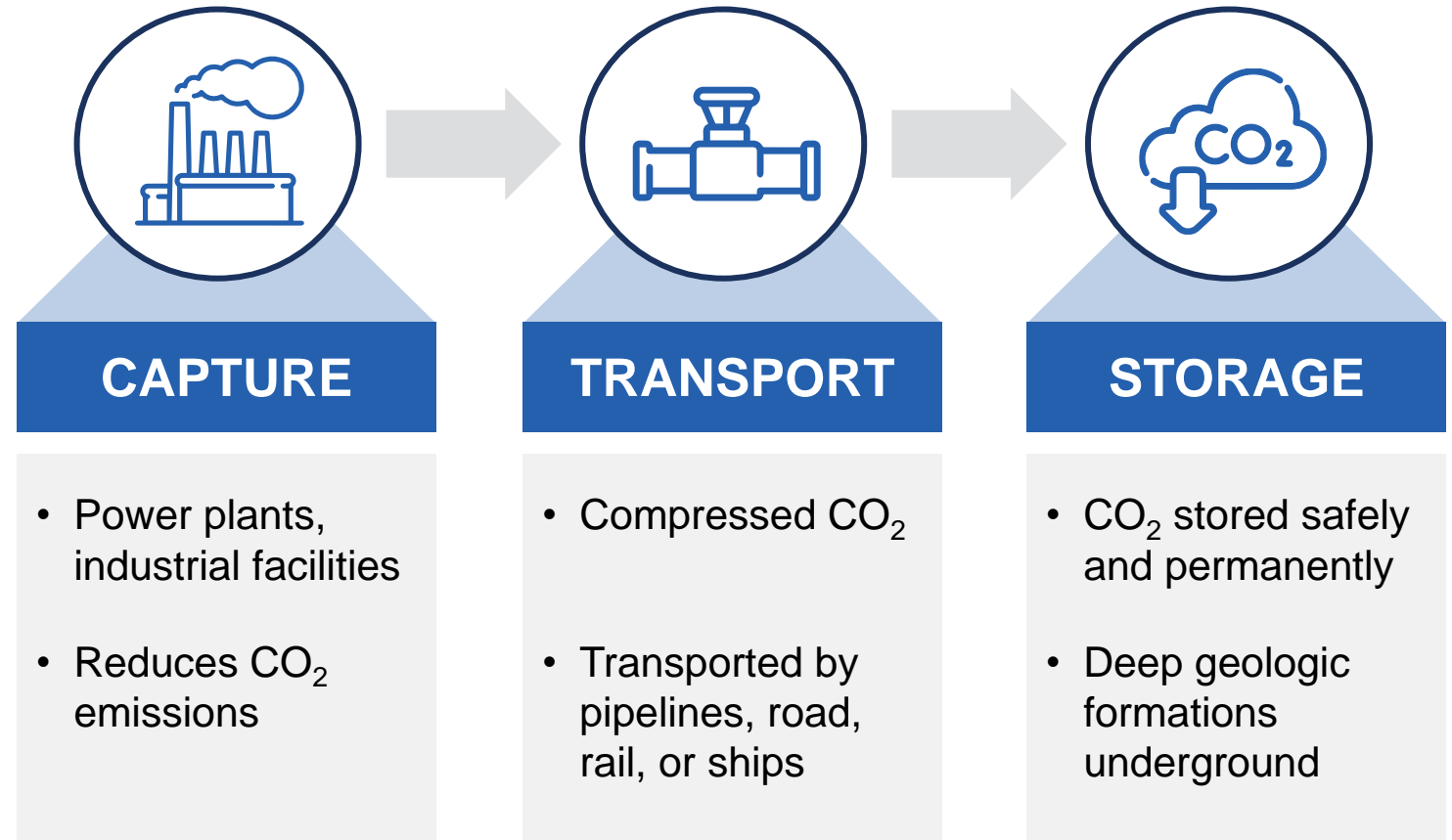
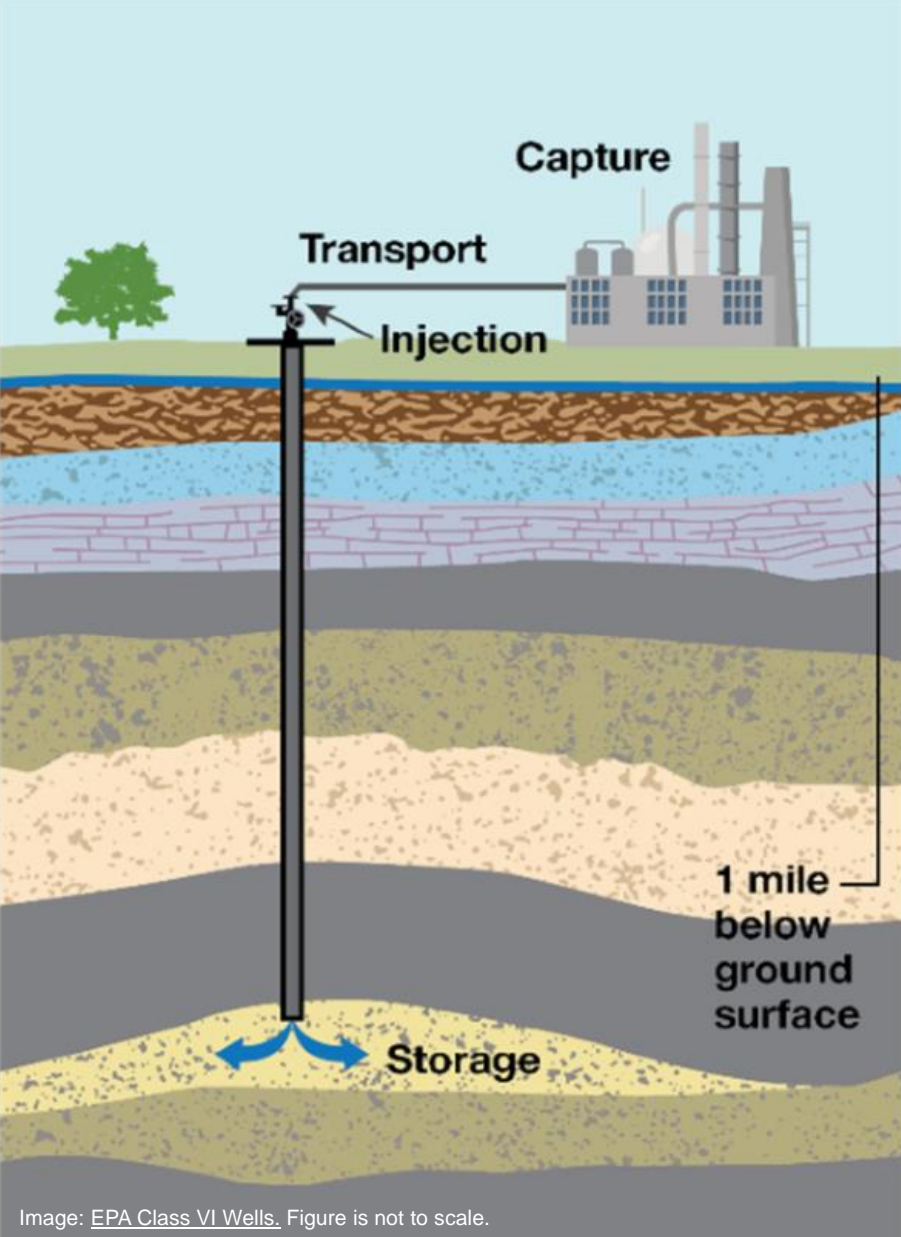
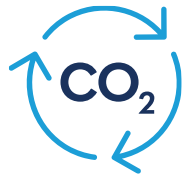


Image: [EPA Class VI Wells](#). Figure is not to scale.



Deploying CCS Technology has the Potential to...



Reduce harmful carbon pollution by preventing carbon emissions from entering the atmosphere.



Demonstrate technology leadership and increase U.S. competitiveness in the global energy transition.



Deliver cleaner air by reducing health-harming pollutants, like SO₂, NOx, and particulate matter.



Maintain good, high-wage jobs while advancing the clean energy economy.



Decarbonize existing infrastructure and assets in the power and industrial sectors.



Support our nation's net-zero goals and help the world decarbonize at existing facilities.



Carbon Capture Demonstration Projects Program

Develop six carbon capture facilities to significantly improve costs, emissions reductions, and environmental effects of coal and natural gas use.

CCS Demonstrations Current Status

- February 2023: Announced funding opportunity for CCS Demonstration Projects.
- May 2023: Received full applications.
- **December 14, 2023: OCED announced three projects selected for award negotiation.**
- DOE anticipates future FOAs for CCS Demonstrations.

Carbon Capture FEED Studies Current Status

- May 2023: Selected nine FEED study projects for award negotiation.
- September 2023: Awarded two FEED study projects.
- December 2023: Awarded two FEED study projects.
- *Other FEED study selectees are still in negotiations.*

Prioritizing Community Benefits in OCED Projects

OCED **requires** applicants to include a Community Benefits Plan to help ensure broadly shared prosperity in the clean energy transition.

By **prioritizing community benefits**, we can ensure the next chapter in America's energy story is marked by greater justice, equity, security, and resilience.

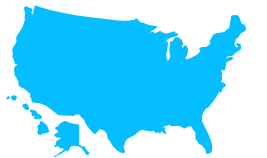
Community & Labor Engagement



Diversity, Equity, Inclusion, & Accessibility



Investing in the American Workforce



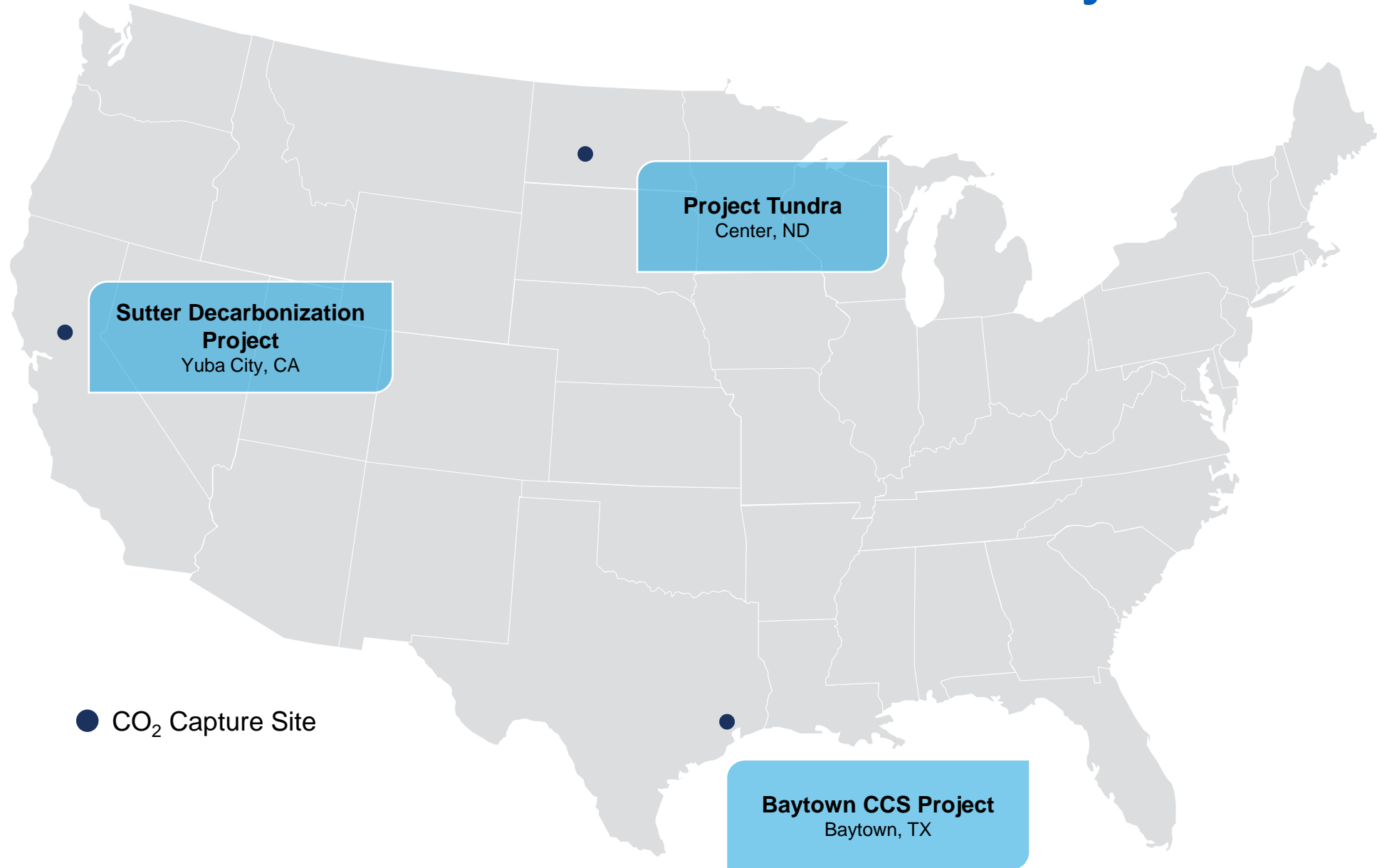
Justice40 Initiative





CCS Demonstration Projects Selected for Negotiations

Selected CCS Demonstration Projects



Selected CCS Demonstration Projects Will...

Reduce CO₂ Emissions

- ✓ 7.75 million metric tons of CO₂ will be captured annually
- ✓ Captured CO₂ will be permanently stored in geologic formations deep underground

Demonstrate innovation with first-of-a-kind projects

- ✓ 1st CCS demonstrations for natural gas combined-cycle power plants
- ✓ 1st CCS project with saline storage for a coal-fired power plant
- ✓ 1st CCS project to deploy an air-cooling system to reduce water use

Provide tangible benefits for Americans

- ✓ Retain and create good-paying jobs
- ✓ Create new training programs in partnership with labor unions
- ✓ Support supply chain diversity by partnering with minority-owned businesses

Project Tundra

Project Overview

Prime Applicant:

**Dakota Carbon Center
East Project LLC**

Location:

Center, North Dakota

Federal Cost Share:

Up to \$350 Million*

*Pending negotiations

Key Facts

- Coal-fired power plant
- **4 million metric tons of CO₂ annually**
- Storage site: Saline geologic formations near the power plant in ND
- 1st U.S. coal plant storing CO₂ in saline formations



Community Benefits

- Plan to negotiate a Community Benefits Agreement (CBA) and Project Labor Agreement (PLA)
- Existing Collective Bargaining Agreement with International Brotherhood of Electrical Workers
- Estimate creating approx. 25 permanent jobs and a minimum of 400 construction jobs



Sutter Decarbonization Project

Project Overview

Prime Applicant:
Sutter CCUS, LLC,
a Calpine subsidiary

Location:
Near Yuba City, California

Federal Cost Share:
Up to \$270 Million*

*Pending negotiations

Key Facts

- Natural gas combined-cycle power plant
- Capture capability up to **1.75 million metric tons of CO₂ annually**
- Storage site: Saline geologic formations 10 miles from the power plant in CA
- Air cooling to minimize water consumption



Community Benefits

- Negotiating a Project Labor Agreement (PLA)
- Plans to support 10 paid, pathway to employment internships through Minority-Serving Institutions
- Estimate creating approx. 15-20 permanent jobs and 1.5 million hours of highly skilled craft labor



Baytown CCS Project

Project Overview

Prime Applicant:
Calpine Texas CCUS Holdings, an indirect subsidiary of Calpine

Location:
Baytown, Texas

Federal Cost Share:
Up to \$270 Million*

*Pending negotiations

Key Facts

- Natural gas combined-cycle power plant
- **2 million metric tons of CO₂ annually**
- Storage site: Saline geologic formations on Gulf Coast
- Greywater cooling to minimize freshwater use



Community Benefits

- Plans to develop a Community Benefits Agreement
- Partnering with Minority-Serving Institutions to support 10 paid, pathway to employment internships
- Estimate creating approx. 22-26 permanent jobs and 1,500,000 hours of construction jobs





Next Steps & Resources

Next Steps – Negotiations

Award Negotiations: DOE OCED will begin the negotiations process with project selectees

After Award: *IF the projects receive an award (successful negotiations)*

- Awarded projects will enter into a cooperative agreement with OCED
- Phase 1: Detailed Project Planning begins
- NEPA: OCED will work with the awarded project partners starting in Phase 1 to ensure compliance with the National Environmental Policy Act (NEPA)
- Local communities (state, local and community stakeholders) will have the opportunity for ongoing engagement with OCED and the awardee(s)

More broadly, DOE is exploring the use of regional frameworks to support project outcomes.

Get Involved

How could this project impact me?

Learn more about OCED's
Community Benefits Plan →

Is there a Carbon Capture Demonstration
project near me?

Learn more about the
selected projects here →

Project
selected



Announcement and Negotiations
Projects have been selected, but awards
have not been made



What is a CC
Demo project?

Learn more →

Project
awarded



When are the CC Demos
project-specific briefings?

Learn more and
register here →

1

~12-18 months

2

~2-3 years

3

~3-6 years

4

~2-4 years

Phase 2: Project Development

Community Benefit Commitments Public

Phase 1: Detailed Plan

Community Benefit Commitments Public

Phase 3: Install, Integrate, Construct

Community Benefit Commitments Public

Phase 4: Ramp-Up & Operate

Community Benefit Commitments Public

Ongoing community engagement
throughout each phase

How do I stay informed?

Sign up for updates →



OCED
Office of Clean Energy Demonstrations



Community Benefit Commitments Public



Go/No-Go Decisions

Next Steps – Community Briefings

Learn more and
register: [Local
Engagement
Opportunities](#)

OCED will hold three virtual project-specific briefings where selectees will share more information with the communities hosting CCS Demonstration Projects.

Project Tundra – North Dakota
Tuesday, January 9, 2024

Baytown CCS Project – Texas
Wednesday, January 10, 2024

Sutter Decarbonization Project – California
Thursday, January 11, 2024

*Subject to change based on negotiations. Negotiations may take several months.



Stay Connected

- Reach DOE OCED about these CCS Demonstration Projects at Engage_CCS@hq.doe.gov

- OCED Website & Newsletter energy.gov/oced

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- OCED Exchange (RFIs, NOIs, and FOAs) oced-exchange.energy.gov
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CCS Demonstration Projects Resources

Carbon Capture Demonstration Projects Program

- [Program Page](#)
- [Press Release](#)
- [Overview of Selected Projects](#)
- [Local Engagement Opportunities](#)

Community Benefits

- [CBP101 Webinar](#)
- [OCED CBP Factsheet](#)
- [OCED Communities, Jobs, and Justice Page](#)

Additional Carbon Capture Resources

- [Carbon Management Pathways to Commercial Liftoff Report](#)
- [Interactive Diagram of DOE's Carbon Management Provisions](#)
- [EPA Class VI Wells Information](#)



Thank you!



OCED
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For more information, please visit: energy.gov/OCED